

NOTES ON THE LEAF BEETLE *HALTICA IGNEA* BLACKBURN  
(COLEOPTERA: CHRYSOMELIDAE: HALTICINAE)  
AT LAKE COWAL, NEW SOUTH WALES

By W. J. M. Vestjens

Division of Wildlife Research, C.S.I.R.O., P.O. Box 84, Lyneham, A.C.T. 2602.

Abstract

Observations on the occurrence and crepuscular flight of the leaf beetle, *Haltica ignea* Blackburn (Coleoptera: Chrysomelidae: Halticinae) are reported together with some notes on feeding and predation.

During ornithological studies at Lake Cowal from 1969 to 1977, notes were made on the leaf beetle *Haltica ignea* Blackburn.

From 1969 to the summer of 1970-71 the beetles were present in small numbers on water milfoil, *Myriophyllum verrucosum* Lindl., growing at the edge of the lake which was at high waterlevel. When the waterlevel dropped, water milfoil covered large areas which were previously covered with water. During March 1971 beetles congregated in countless numbers on cane grass, *Eragrostis australasica*, and lignum bushes, *Muehlenbeckia cunninghamii*, near areas covered with water milfoil, so that the plants appeared to be metallic blue and bronze-coloured.

The beetles crawled actively over the plants and copulation was observed. Some flew from plant to plant while others flew in from all directions. Feeding was observed only on the red-flowering water milfoil.

The beetles were not evenly distributed, but occurred in distinct congregations. A total of 14 of these congregations was observed over a shore length of 700 m. They consisted of bands between 30 and 75 cm wide and ranged in length from 3 to 18 m. Estimated numbers were between 7,000 and 75,000 beetles per congregation. Beetles could be scooped out of cattle hoof marks in mud by the handful. Those from a clump of cane grass, about 1 m<sup>2</sup> in area, occupied a volume of 12 l.

Since March 1971 beetles have been observed in large numbers each year from the beginning of August to the end of June. Their numbers varied with the waterlevel of the lake; when the waterlevel was low congregations were large (the largest, during October 1971, was estimated to consist of some 200,000 beetles), when the waterlevel was high congregations of up to about 1000 beetles were common.

Each year larvae occurred between October and May, in association with adults. The larvae fed close together on water milfoil which, when growing in mud, was grazed down to mud level. The larvae reached plants growing in shallow water by wriggling across the surface of the water. There plants were eaten off to waterlevel.

Between 84 and 209 larvae were counted per 100 cm<sup>2</sup> quadrats; the average count in 20 quadrats was 136. The largest congregation of larvae covered an area of 97 x 83 m during February 1972. Heavy mortality of larvae was observed after a flood covered the feeding areas.

Eleven species of birds were observed to feed among the beetles and larvae: white-faced heron, *Ardea novaehollandiae*; glossy ibis, *Plegadis falcinellus*; white ibis, *Threskiornis molucca*; spotted crane, *Porzana fluminea*; painted snipe, *Rostratula benghalensis*; masked plover, *Vanellus miles*; red-kneed dotterel, *Erythronyx cinctus*; black-fronted dotterel, *Charadrius melanops*; silver gull, *Larus novaehollandiae*; Australian magpie lark, *Grallina cyanoleuca*; and the Australian magpie, *Gymnorhina tibicen*. Examination of the stomach contents of these birds, collected while feeding amongst the beetles, showed that only the Australian magpie fed upon both larvae and adults. The other species fed mainly on Diptera larvae and other arthropods. Vestjens (1974) recorded that magpies eat arthropods which, like this leaf beetle, man would consider to be unattractive, e.g. ants and shield bugs.

Movements of beetles between one congregation and another were observed commonly during sunny and hot days. A crepuscular flight was observed at 'Cowal North' Station, about 500 m from the lake shore on September 21, 1977.

The first beetles flew from south to north, just before sunset, in a band about 400 m wide and about 5 to 8 m above the ground.

The numbers of beetles passing across a 10 m length strip of this band were estimated to be:

Time	Estimated number of beetles per minute	Flight direction
17.47 to 17.48 hr	10 to 100	north
17.49	1,000	north
17.49 to 18.08	10,000	north
18.08 to 18.14	10,000	west
18.14 to 18.17	1,000 to 500	west
18.17 to 18.19	500 to 100	west
18.19 to 18.22	100 to 25	west
18.22 to 18.23	5	west
18.24	0	—

The change of direction at 18.09 hrs was when the sun had set, and beetles flew directly towards the last light, at a height of about 2 to 2.5 m. Air temperature during the flight period was about 20°C.

Beetles were attracted in large numbers to light traps which were operated during each visit to the area.

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#### Reference

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